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their function in securing the adjustment of the individual to his environment, physical and social. The fear which the psychologist studies is not a hidden feeling cherished within his breast; it is precisely *that* feeling which is inspired by determinate objective conditions, and which impels him to characteristic expressions and acts. He can identify a given experience to himself as "fear" only in so far as it sends cold shivers down his back, or gives him a sinking in the pit of his stomach or makes his knees shake beneath him. But even these private earmarks are phrases whose significance is set by common usage.

If the foregoing contentions are just, the conclusion we have to draw is that the mental and bodily phenomena whose empirical correlation sets us our problem are not phenomena belonging to two distinct orders of nature, but phenomena which actually are, and only can be, individuated and classified by common principles. Both the bodily correlates of mental processes, and the mental processes themselves, are individuated as phenomena only on the basis of their function in adjusting the individual to his environment.

GRACE A. DE LAGUNA.

BRYN MAWR COLLEGE.

THE DIVISION OF JUDGMENTS

I

JUDGMENTS in logic are traditionally divided on the four bases of quantity, quality, relation, and modality, and this division has received so much support from the influence of Kant that it has persisted in our elementary manuals down to the present day. And yet, the whole movement of what is known as "modern logic" has been definitely in another direction. Lotze, for instance, rejects at least three fourths of the traditional scheme. He insists that judgment is an interpretation of observed fact, expressing not merely a relation between the matters of two ideas, but also the ground of this relation, and shows that this relation and its ground are expressed by means of the copula. It follows that judgments can be divided into as many different forms as there are different meanings of the copula—*i. e.*, different accessory notions which we form of the connection of *S* and *P*. Of such accessory notions we form three main types: (1) the categorical, which connects *S* and *P* on the model of the relation of a thing to its property, (2) the hypothetical, which connects *S* and *P* on the assumption that a certain condition is fulfilled, and (3) the disjunctive, which imposes upon *S* the necessity

of choosing between several mutually exclusive *P*'s. The attempt to express the ground is inadequate in the categorical form, more adequate in the hypothetical form, and most adequate in the disjunctive form, which, by its reference to a system within which choice is logically determined, points to the ideal ground of complete coherence. Lotze thus recognizes three essentially different forms of judgment, which correspond to the group known traditionally as the relation-group.¹

For Sigwart, on the other hand, there are no essentially different forms of judgment. Any diversity supposed to attach to such forms is at best diversity of matter, the matters of the two ideas *S* and *P*. At its worst, such supposed diversity is diversity of verbal expression in the propositional forms of judgment. We must guard against thinking that the name "judgment" denotes a number of originally different and coordinate acts of thought. All judgments as such are, in fact, formed by one and the same mode of thought-activity, and thus we can recognize only one sort of judgment, the categorical statement that a predicate belongs to a subject.

For Bradley, also, the traditional forms of judgment are not essentially different. All judgments are assertoric or categorical, all are hypothetical, all are particular, all are universal, all are abstract and concrete, analytic and synthetic. There is only one form of judgment, the referring the ground of *SrP* to Reality—a reality with which we are in contact in sensory experience.²

Bosanquet, while insisting, like Bradley, that all judgments are categorical, hypothetical, universal, individual, positive, negative, abstract, and concrete, is yet especially interested in tracing the various forms of judgment which arise in the evolution of thought. Judgment, as the effort of thought to define reality, varies, as Lotze has pointed out, with the degree of success with which it defines. But it also varies, as Sigwart has insisted, with the kinds of reality to be defined. For instance, an equation, a definition, an esthetic appreciation, are all judgments. They differ with the difference of

¹ Quantity, quality, and modality, are rejected as failing to touch the essence of judgment, *viz.*, the relation and its ground expressed in the copula. The relation *SrP* remains unchanged whether we speak of one *S*, two *S*, or *nS*, whether we affirm or deny it, and whatever the degree of assertiveness with which we affirm or deny it. The influence of this view is strongly marked in the case, *e. g.*, of Hibben's *Logic*.

² We might further compare what Bradley says *re* the impossibility of having fixed models for reasoning; for the argument applies also to judgment. There are principles which test the general possibility of making a construction; but of the actual construction there can be no canons. We should need an infinitude of *schemata* to parallel the infinitude of possible relations between *S* and *P*. (*Princ. of Logic*, pp. 238-239, 246, 248.)

the totalities which they respectively analyze. They are divergent developments of the same relation, and the divergence is shown in the predominance in each of some special aspect which is present but subordinate in the other forms. In this way intelligence, in spite of its unity, is many-sided; and its aspects, which are correlatives, lose their true interdependence if we try to represent them in a single (linear) series, as is done, for instance, by Plato. Bosanquet accordingly gives us an elaborate division of judgments in a number of series: (1) rudimentary or intermediate series, (2) concrete or categorical series, (3) abstract or hypothetical series, *etc.* The species thus established are regarded as cross-sections through the self-evolution of thought, ways in which our concrete attempts to define reality by significant ideas have become crystallized, somewhat as the species-definitions in botany represent crystallized cross-sections of our ever-changing, evolving knowledge of plants. The scheme is not intended as a Procrustean bed for the facts of logic, but as a practical arrangement which shall assist the reader in understanding the judging process.³

According to Wundt, our logical thought is not immanent in the objects themselves; it is merely an instrument for investigating and discovering objective relations. From the view-point of logic, then, judgment consists in the analysis or articulation of a thought into its two main elements, *S* and *P*, and, as thus analyzed, judgment has three main kinds, according as we find differences, (1) in the *S*-concept, (2) in the *P*-concept, (3) in the relation of *S* and *P*. He therefore divides judgments as follows:

- I. Subject-forms of judgment. This class includes (*a*) indeterminate judgments, (*b*) singular judgments, (*c*) plural judgments.
- II. Predicate-forms of judgment. This class includes (*a*) narrative, (*b*) descriptive, and (*c*) explanatory judgments.
- III. Relation-forms of judgment. This, the most important class, includes (*a*) judgments of identity, (*b*) judgments of supra- or infra-ordination, (*c*) judgments of coordination or dependence.
- IV. Validity-forms of judgment. This class includes (*a*) negative, (*b*) problematic, and (*c*) apodictic judgments.⁴

³ A simplification of Bosanquet's view, betraying also the influence of Bradley, is given by Creighton, who divides judgments into (1) qualitative, (2) quantitative, (3) causal, (4) individual, or judgments of individuality.

⁴ The validity-group is not intended by Wundt to be coordinate with the other groups. It includes important sub-forms which belong to all three other groups—negative judgments, for instance, are found in all three classes. (*Logik*, 3e Aufl., I., pp. 165 ff.)

For Erdmann, on the other hand, our logical thought *is* immanent in the objects themselves, and judgment is the attempt to formulate in terms of the predicative relation objective relations in the real world. There is, however, no single principle for dividing the different types of judgment as such, and in order to be just to the empirical facts, Erdmann divides judgments into the following groups:

I. Simple judgments.

(a) Judgments which express "real" relations. This group includes (1) formal, (2) attributive, (3) causal judgments.

(b) Judgments which express "ideal" relations. This group includes (1) judgments about grammatical relations, (2) judgments of similarity, (3) normative and value judgments.

From another view-point, simple judgments are divided into:

(c) Content-judgments. These are either (1) individual, or (2) general.

(d) Extent-judgments. These are either (1) particular, or (2) universal.

Finally, the syncopated forms of judgment, such as the "impersonals," are regarded as a class of simple judgments.

II. Complex judgments.

(a) Combinations of judgments. This group includes (1) copulative, (2) conjunctive, (3) disjunctive judgments.

(b) Judgments about judgments (*Beurteilungen*). This group includes (1) negative, and (2) modal judgments.

(c) More complex forms. This group includes (1) hypothetical, and (2) disjunctive judgments.

Finally, perhaps we may mention what we find in the logic of the pragmatist school. For this school judgment is instrumental. Its function is to construct, justify, and refine experience into exact instruments for the direction and control of future experiences through action. There are all grades of development from the crudest to the most expert forms. Three typical stages seem to be recognized: (1) impersonal, (2) reflective, (3) intuitive. By the intuitive stage of thought is meant the unhesitating efficiency which results in complete control of action, an efficiency arising within a certain sphere of action through constant, intelligent use and practise.⁵

⁵ See esp. S. F. McLennan, *Typical Stages in the Development of Judgment*, in Dewey's *Studies in Logical Theory*. Also Dewey, *Experimental Logic*, Ch. VI. A somewhat similar general attitude is taken by the "personal idealist," Henry Sturt, in *Principles of Understanding*.

II

If the preceding instances may be regarded as representative, we can state that in modern logic, so far as concerns the division of judgments, three main tendencies are present. In the first place we have the view that judgment is one and one only, and as such excludes the conception of essentially different forms or types. Affirmative and negative, categorical and hypothetical, represent variations of emphasis merely, different aspects of one and the same fact, *viz.*, that judgment is a systematic totality. For this view, no logical division of judgments is possible, and indeed, in the end, there seems to be only one judgment.

In the second place, while equally insisting upon the unity of judgment, considered from this ideal view-point, many writers accept a quasi-Hegelian view of the self-evolution of logical thought, and distinguish, in the process which leads from the primitive, superficial grasp of externals to the final profound apprehension of the systematic totality of the real—or at least of the thinkable—a number of *stages* rather than coordinate forms. As a rule, no insistence is made upon the exact number of stages to be accepted by logicians. It appears to be a matter of convenience, and the aim is merely to indicate in a concrete way the progressive nature of thought in its evolution, and the rich variety of its products.*

In the third place we have the view of writers like Erdmann, writers who regard judgment as the (predicative) apprehension of what is logically immanent in the relations of real objects, and while on the one hand insisting that there is no single principle in the nature of judgment as such which could serve as a *fundamentum divisionis*, in practise divide judgments on the basis of the differences of objective relations. Thus, a judgment about mathematical relations belongs to a different class from judgments modeled on the relation of a thing to one of its qualities, or from judgments which move within the system of inter-relations which constitutes grammar. In fact, it is less a division of judgments than a division of objects.

Our only possible conclusion is that modern logic recognizes no logical division of judgments into coordinate types or species. Logically, judgment is one and indivisible, and we can regard this question as settled. The only question which remains to be solved is how to deal with the mass of diverse-appearing material in a manner which shall be at the same time convenient and just. Hitherto two

* So Bosanquet and Creighton. Lotze, however, regards the categorical, hypothetical, and disjunctive forms as "essentially different" (*Logik*, pp. 38, 41). Boyce Gibson accepts these forms, but reverses the order of the last two (*Problem of Logic*, pp. 111-112).

solutions have been proposed. The first consists in recognizing a number of stages in the self-evolution of thought. The second consists in recognizing differences in the objects about which we judge. Does either of these suggestions possess superiority over the other?

Let us consider. In the literature, no writer attempts to base his distinctions *solely* upon objective differences. Bosanquet and Creighton, for instance, deal with judgments of quality, *i. e.*, apprehension of mathematical relations, with apprehension of causal relations, and finally of the systematic inter-relation of parts within a whole which Creighton calls judgments of individuality. The relations are "objective," but the arrangement of them in "series" is based upon the distinction between superficial and profound. The qualitative aspect which is open to sense-perception does not go so deeply into the nature of the object as the mathematical intelligence which grasps quantitative relations. Causal relations go still deeper, and when we apprehend the object from the view-point of the whole, as one element in an organized totality, we have gone as far as is possible.⁷ So too the pragmatist arranges the forms of judgment recognized by him into stages from the more crude to the more efficient, and even Erdmann, who more than any other writer insists upon the objective nature of the relations which he recognizes, arranges judgments in an order from the simpler to the more complex. We must, however, admit that Erdmann dissociates himself from those who arrange judgments according to stages of progressive insight. On the whole, then, if we consider the nature of the case as well as its treatment in the literature, we must realize that relations between objects are at least as numerous and incalculable as the objects themselves, and that consequently, as a basis for dividing up the field of concrete judgments, the method of recognizing "stages," whether of insight or efficiency, is preferable, at least from the standpoint of convenience.

Let us examine this distinction a little more closely. It is not a logical distinction, based on "specific differences within the essence" of judgment. As we have seen, modern logic repudiates such a conception. If the distinction is not logical, what is it? It deals with the process-side of knowledge. On what does this process depend? A process always involves two factors, and it is their mixture in varying proportions which results in the various stages of the thought-evolution. What, then, are these two factors? What is the factor whose predominance makes the judgment crude or superficial?

⁷ So too Lotze, Hibben, Boyce Gibson, *etc.* On the subject of "individuality," which corresponds to some extent with what Lotze and Bosanquet regard as the field of disjunctive judgment, *cf.* also Bradley, *Princ. of Logic*, pp. 447 (§ 26), pp. 449-451 (§§ 29-30).

What is the other factor, whose predominance makes the judgment efficient or profound? Under various disguises, the two factors turn out to be sense and intellect, and the basis of distinction is psychological, as indeed we might expect in dealing with the process-side of knowledge.⁸ The judgment of quality is, in psychological language, the judgment of perception, and all the other types recognized in modern logic are judgments which, while still retaining some thread of connection with sense-perception, are transformed into something more "profound" by the degree to which the intellectual standards of identity, difference, and systematic organization are brought to bear in clearing up their content. The final case—what Creighton calls "judgments of individuality"—can hardly, perhaps, be realized. For there is always a gap between what sense can give and what our uncompromising intellectual standards demand. But in one form or another, approximations to such judgments represent a perpetual recurring human demand, and thus deserve to be recognized in logic.

So far, then, our conclusion is, that judgments can not be divided upon a logical, but only upon a psychological basis. It remains to ask, how this psychological distinction of "stages" should be worked out in detail. Hitherto we have considered only a dualistic attempt to combine two bases, (1) the psychological, and (2) some objective classification of real relations. But this is to introduce all the difficulties of dualism and heterogeneity, and it commends itself to recognize frankly the psychological nature of our method. If it is possible, if such a division can be carried through, two questions only can be asked: (1) Is it convenient? (2) Is it just to the empirical facts? That it is possible is explicitly recognized by Erdmann, who furnishes us with a somewhat elaborate specimen of the way in which it can be done. He insists that his treatment is just to all the empirical facts, for there is not a single judgment of the group which he regards as "logically" divided but can find a place somewhere in the psychological scheme,⁹ but it remains a question, how far his

⁸ Cf. e. g., Bradley, *op. cit.*, pp. 440 ff. The "psychological" basis belongs, as Erdmann points out, to a psychology *durch logische Gesichtspunkte normiert*.

⁹ The scheme is: I. Analytic judgments. (a) Original (judgments of perception, direct judgments of experience, symbolic judgments of experience). (b) Derivative (memory judgments, imagination-judgments, abstract judgments). II. Constructive judgments. (a) Judgments communicated to us by others, through language. (b) Judgments thought out by us for ourselves. After the work of Bradley and Bosanquet in showing that analysis and synthesis are two sides of the same process, it does not seem possible to maintain Erdmann's distinction of the two great classes. And, in any case, the distinction between II. (a) and II. (b), however useful for immediately practical purposes,

scheme is convenient. In fact, just as, in the attempts to work out the dualistic division, Creighton's version is undeniably more convenient than Bosanquet's, so our problem here seems to be to construct a scheme which shall be more convenient than Erdmann's, while retaining what is essential in its view-point.

III

To this end I would suggest the following division of the field of judgment, on the basis of the comparative predominance of sensory and intellectual elements:

- Stage I. Judgments of perception. Examples: It is warm. This paper is white. This tree is higher than that.¹⁰
- Stage II. Judgments of experience. Examples: Children are a joy. Everywhere you see grain elevators. A thick rug under the feet prevents chilblains. The freight-trains are growing more troublesome every year.¹¹
- Stage III. Symbolic judgments. Examples: Socrates was put to death for political reasons. Sea-sickness depends upon the functioning of the semi-circular canals. Not more than one man in a thousand would vote for that programme. $x^2 - y^2 = (x + y)(x - y)$.¹²
- Stage IV. Transcendent judgments. Examples: The prince now possessed the magic sword, the cap of darkness, and the seven-league boots. Oh! for a mansion in the skies! I am the master of my fate, I am the captain of my soul. Life *means* more life, life without end or limit—immortality. Time and space are unreal, mere forms of sensibility, which disguise the real. Things-in-themselves are knowable (or unknowable).

A brief explanation of the above distinctions is perhaps necessary. A judgment of experience differs from the perceptual judgment, in that it depends more on memory or previous perceptions than on direct present perception. It is more complex, and sums up many previous experiences, as a composite photograph gives us the hardly commends itself to strict theory. Wundt seems to object in principle to the psychological analysis of judgments (*Logik*, 3e Aufl., I., p. 74).

¹⁰ Judgments of perception correspond to Erdmann's judgments of perception and the qualitative judgments recognized by Bosanquet and Creighton.

¹¹ Judgments of experience correspond to Erdmann's judgments of direct experience. In the case of both perceptual and experiential judgments, however, Erdmann's distinction between analytic and constructive is dropped.

¹² This corresponds partly to Erdmann's symbolic judgments of experience, but includes also what he calls judgments of imagination and abstract judgments, in part. The other part of Erdmann's class of abstract judgments is included in our class of transcendent judgments.

result of many direct likenesses of actual persons. It looks before and after, and loosens our thought slightly from its sensory moorings. But the distinction is a matter of more or less only. Where the sensory element of direct perception predominates, we have the perceptual judgment. Where the intellectual element of summing up many experiences predominates, we have the judgment of experience.

The symbolic judgment differs from the judgment of experience in that it extends our knowledge beyond the field of actual experience. It constructs, on the analogy of experiential types, new objects of similar type, objects which we might possibly experience (or have experienced), but which we have in fact not actually experienced. Our knowledge of Socrates is indirect, a highly intellectual construction which extends far beyond the field of actual sense-experience. Most of our forecastings of the future and all of our scientific laws belong to this group. They are formed by the introduction, into the sensory consciousness, of intellectual standards which enable us to construct systems valid, not merely for actual experience (which is past), but for possible human experience. It is unnecessary to point out, perhaps, that the transition between experiential and symbolic judgments is gradual.

The transcendent judgment is an attempt to extend the field of symbolic judgment beyond the limits of human experience, actual or possible. In the symbolic judgment, our object is always something which might conceivably be experienced (or have been experienced). But in the transcendent judgment, the object could never be experienced. Such judgments are both natural and common. Consider, for example, the ever-recurring interest in mysticism, the medieval search for the philosopher's stone, the inventor's fascination in the case of perpetual motion, the still not uncommon belief that one can read destiny by the lines in the palm, if not by the conjunctions of the heavenly bodies. So too in every walk of life, the human yearning after some ineffable ideal, some unspeakable perfection—the "vision" (as we call it) of ideal truth, power, love, or happiness—leads us insensibly and inevitably beyond the narrow confines of possible experience.

The above types exhaust the field of human thought. They represent four stages of judgment, distinguished from one another only relatively, according as the perceptual or the intellectual element predominates. The simplest judgments of perception exemplify, to *some* extent, the operation of the elaborative, idealizing tendency of intellect; and the most transcendent judgments we can make, the finest thought-webs we can spin, are still attached to earth by *some*

sensory threads, gilded o'er by the warmth of personal feeling and personal sense-experience. A pure intellect and a pure sensation are equally beyond our human thought. All our thinking moves within these two extremes, and partakes of both principles in varying proportions.¹³

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[*Note:* The following list of references is not intended to be exhaustive; nor does it claim for all the references first-rate importance or equal value. It has been made up by fusing the separate lists contributed by the several leaders. Hence it may perhaps be said of every item that at least one of the leaders has had it in mind in mak-

¹³ This fourfold division of the field of thought into "stages" is not entirely novel. It corresponds, roughly, to Plato's four stages of intelligence. (*Republic*, vi, pp. 509 ff.) Bosanquet explicitly objects to this mode of division, as being too simple for the empirical facts. For Plato intends it not merely as a psychological division, but also as a division of objects. But we have rejected the attempt to classify objective relations, and advocate the distinction of stages purely on a psychological basis, as (1) convenient, and (2) sufficiently inclusive to be just to the empirical facts.

RUPERT CLENDON LODGE.

UNIVERSITY OF MINNESOTA.